

Retno Suprihatin. 2026. Pengembangan Sistem Informasi Presensi Siswa Berbasis Web Menggunakan QR Code Terintegrasi WhatsApp pada SMPN 1 Kamal. Skripsi, Program Studi Pendidikan Informatika, Jurusan Ilmu Pendidikan, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Trunodjoyo Madura. Pembimbing: Nuru Aini, S.Kom., M.Kom.

ABSTRAK

Sistem presensi siswa di SMPN 1 Kamal masih mengandalkan metode manual dan sempat menggunakan aplikasi *datang reader* yang belum terhubung dengan wali murid, sering mengalami *error*. Penelitian ini bertujuan untuk: (1) mengembangkan sistem informasi presensi siswa berbasis web menggunakan QR Code terintegrasi WhatsApp pada SMPN 1 Kamal, dan (2) mengetahui hasil pengujian sistem berdasarkan standar ISO/IEC 25010. Metode pengembangan yang digunakan adalah model *Waterfall* dengan teknologi *frontend React.js* dan *Tailwind CSS*, serta *backend Node.js* menggunakan *framework Express.js* dan basis data *MySQL*. Sistem yang dikembangkan diberi nama SIPENSA (*Sistem Informasi Presensi Siswa*) dan dapat diakses melalui <https://sipensa.smpn1kamal.sch.id/>. Fitur utama sistem meliputi pemindaian QR Code unik milik setiap siswa untuk pencatatan kehadiran, *dashboard real-time* bagi guru dan admin, serta notifikasi kehadiran otomatis kepada wali murid melalui *WhatsApp Gateway*. Hasil pengujian kualitas sistem menggunakan ISO/IEC 25010 menunjukkan bahwa: *functional suitability* memperoleh persentase 100%, *Performance Efficiency* mendapatkan skor 93 pada *Google PageSpeed Insights*, *Security* sebesar 87,4%, *Reliability* mencapai 100%, aspek *Maintainability*, *compatibility*, dan *Portability* terpenuhi sesuai standar, serta *Usability* memperoleh persentase 93,9% dengan kategori Sangat Baik. Hasil ini menunjukkan bahwa SIPENSA layak diimplementasikan sebagai solusi pengelolaan presensi siswa yang lebih efisien, akurat, dan transparan di lingkungan SMPN 1 Kamal.

Kata-kata kunci : *sistem informasi, presensi siswa, QR Code , WhatsApp Gateway, ISO 25010, Waterfall*

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ABSTRACT

The student attendance system at SMPN 1 Kamal has been relying on manual methods and previously used a card reader application that was not connected to parents, frequently experienced errors. This study aims to: (1) develop a web-based student attendance information system using QR Code integrated with WhatsApp at SMPN 1 Kamal, and (2) determine the system testing results based on the ISO/IEC 25010 standard. The development method used is the Waterfall model with React.js and Tailwind CSS as frontend technologies, and Node.js using the Express.js framework with a MySQL database as the backend. The developed system is named SIPENSA (Student Attendance Information System) and can be accessed at <https://sipensa.smpn1kamal.sch.id/>. The main features of the system include scanning each student's unique QR Code for attendance recording, a real-time dashboard for teachers and administrators, and automatic attendance notifications to parents via WhatsApp Gateway. The system quality testing results using ISO/IEC 25010 show that: functional suitability achieved a score of 100%, Performance Efficiency received a score of 93 on Google PageSpeed Insights, Security reached 87.4%, Reliability achieved 100%, the aspects of Maintainability, Compatibility, and Portability were met according to standards, and Usability obtained a percentage of 93.9% with a "Very Good" category. These results indicate that SIPENSA is feasible to be implemented as a more efficient, accurate, and transparent student attendance management solution at SMPN 1 Kamal.

Keywords : *information system, student attendance, QR Code , WhatsApp Gateway, ISO 25010, Waterfall*